Proposal for USEPA Gulf of Mexico Program Office Funding Opportunity (EPA-GM-2011-1): Gulf of Mexico Regional Partnerships

1.0 SUMMARY INFORMATION

Project Title

Statewide Nutrient Reduction Strategy for Louisiana

Applicant Information

Coastal Protection and Restoration Authority of Louisiana
450 Laurel Street, Suite 1501
Baton Rouge, LA 70801
Attention: Richard C. Raynie; (225) 342-9436; richard.raynie@la.gov

Federal Funding Requested

$100,000

Leveraged Funding

$1.9 Million, Water Quality Offset and Carbon Offset Market Assessment Programs (CPRA)

$882,934 Section 319 Incremental Funding for Special Projects in MRBI watersheds (LDEQ)

Project Period

Three (3) years

DUNS Number

114376135

2.0 NARRATIVE PROPOSAL WORK PLAN

a. Project Summary/Approach

The *Gulf Hypoxia Action Plan 2008* and the Gulf of Mexico Alliance (GOMA) *Governors' Action Plan II for Healthy and Resilient Coasts 2009-2014* (GOMA 2009) have called for nutrient reduction strategies to be developed for states with significant contributions of nitrogen and phosphorus to the Gulf. In pursuit of the U.S. Environmental Protection Agency (EPA) Gulf of Mexico Program's goal of addressing the priority issues of the Gulf of Mexico Alliance, as called for in the Gulf of Mexico Regional Partnerships Request for Proposal (RFP), the Louisiana Coastal Protection and Restoration Authority (CPRA) is seeking funding from the EPA Gulf of Mexico Program Office, Regional Partnerships RFP to address the Activity…*Develop a state-wide nitrogen and phosphorus pollution reduction strategy through a strong and comprehensive partnership* under the Action titled *Increase regional and national coordination to reduce Hypoxia in Gulf of Mexico coastal waters and estuaries*, under the Priority Issue Area *Nutrient Reduction*. This proposal outlines how Louisiana plans to align its statewide nutrient reduction development program with the Gulf of Mexico Alliance's *Nutrients and Nutrient Impacts, Action Plan II Goals*:

- Develop and implement strategies that reduce nutrient inputs and hypoxia
- Establish a comprehensive ecosystem approach to manage nutrient inputs and reduce impacts to coastal ecosystems

The State of Louisiana is making significant progress developing a nutrient reduction strategy, which to date has concentrated on inland watersheds. During this process, the State has recognized the need to develop a more comprehensive nutrient reduction plan which integrates coastal restoration projects that can be designed to improve nutrient reductions and removals. The State of Louisiana is seeking funding from EPA to develop a Statewide Nutrient Reduction Strategy for Louisiana (SNRSL) which adopts the strategic elements identified in the Gulf of Mexico Alliance template (GOMA 2010), the Hypoxia Task Force's State Nutrient Reduction Strategy Framework (2010), and EPA's Recommended Elements of a State Framework for Managing Nitrogen and Phosphorus Pollution (EPA 2011). This proposal consists of the coordination of Louisiana's restoration and water quality programs. The resources of Louisiana-based nonpoint and point source programs will be integrated with Louisiana's coastal restoration program. A series of focused workshops will be conducted to coordinate this effort and others with stakeholders. The resultant strategy will guide nutrient reduction activities in both restoration and water quality planning.

Two innovative market-based ecosystem services projects led by CPRA will be leveraged for the planning and implementation projects outlined above. Initial phases of the Water Quality Offset program and the Coastal Carbon Offset program have demonstrated that CPRA's restoration projects can cost-effectively create nutrient credits (nitrogen and phosphorus) and potentially sell carbon offsets to voluntary markets. One of CPRA's goals is to create an Ecosystem Services Project Bank that can reinvest nutrient credit or carbon offset revenues to supplement the costs of new restoration projects and enhance existing projects.

Introduction

Louisiana has the challenge and opportunity to improve water quality in its coastal waters and the northern Gulf of Mexico. The CPRA is responsible for the State's wetland restoration program and through its projects will coordinate with its member state agencies to develop a collaborative strategy to

reduce nutrient loading to the Gulf. To guide the State's restoration program, *Louisiana's Comprehensive Master Plan for a Sustainable Coast* (CPRA 2007) was developed to integrate ecosystem restoration with storm risk reduction. This master plan relies heavily on river diversions and wetland creation techniques to restore coastal habitats, provide ecosystem services, and reduce storm risk to coastal communities. The 2012 Master Plan update is anticipated to be submitted during spring 2012 and includes restoration project prioritization tools and modeling efforts to better design the restoration strategy.

In 2008, the Gulf Hypoxia Action Plan was released and included a goal to reduce the five-year running average size of the hypoxic zone to less than 5,000 square kilometers. The 2008 Action Plan indicated that in order to reach this goal, states in the Mississippi River Basin need to reduce total nitrogen and total phosphorus loads by more than 45 percent. The Action Plan included 11 specific actions that should be implemented to reach these load reductions, one of which was to develop state nutrient reduction strategies. Action 1 stated: *Compile and implement comprehensive nitrogen and phosphorus reduction strategies from states within the Mississippi/Atchafalaya River Basin encompassing watersheds with significant contributions of nitrogen and phosphorus to surface waters of the Mississippi/Atchafalaya River Basin and ultimately to the Gulf of Mexico*.

Closely tied to the Mississippi River/Gulf of Mexico Watershed Nutrient Reduction Task Force is the Gulf of Mexico Alliance's Nutrients and Nutrient Impacts Priority Issue Team (Nutrient Team). One of the actions of the GOMA Nutrient Team is to "Develop management tools and implement nutrient reduction activities in cooperation with local communities to reduce excess nutrient inputs to estuaries and coastal waters" (GOMA 2009). The Nutrient Team recognized that a critical step in support of that action would be to "increase the implementation of best management practices and pilot innovative nutrient reduction technologies" (GOMA 2009). This goal was reiterated as Activity 2…*Develop a state-wide nitrogen and phosphorus pollution reduction strategy* in the Gulf of Mexico Program's Regional Partnerships RFP. The proposed work in this document will then directly support the objectives of the Gulf of Mexico Alliance through the auspices of the EPA Gulf of Mexico Program.

Currently coastal restoration projects are not explicitly designed for, evaluated by, or ranked by nutrient reduction criteria in part due to the lack of certainty with regard to project effectiveness in nutrient reduction. Evidence has shown that several restoration techniques can significantly reduce nutrients when properly designed and operated, and Louisiana's extensive wetland landscape allows a significant opportunity to capture nutrients from the Mississippi River before reaching the Gulf of Mexico. Thus, successfully integrating existing State wetland restoration strategies (e.g., river diversions, wetland creation, and hydrologic restoration) and water quality programs in and adjacent to the coastal zone may lead to a greater potential to reduce the Gulf hypoxia zone. Additionally, the State can gain a better understanding of the influence specific restoration techniques may have on water quality standards to hopefully avoid or reduce areas from being designated as impaired water bodies, which may require total maximum daily loads (TMDL) development. To meet this goal of program integration, Louisiana needs assistance to improve coordination with the existing federal, state, and local agency stakeholders to develop a Statewide Nutrient Reduction Strategy.

Approach

Louisiana is seeking funding from EPA to support planning and implementation projects designed to create a stronger partnership among water quality and coastal restoration programs. This work will involve initiation of a more coordinated process for developing a Statewide Nutrient Reduction Strategy.

Develop Statewide Nutrient Reduction Strategy for Louisiana

Louisiana's Working Draft Nutrient Reduction Strategy indicated that a variety of management approaches will be necessary to reduce nutrient loads in inland and coastal waters of Louisiana. Management approaches for inland waters will rely primarily on application of BMPs for agriculture, urban, and home sewerage systems. Agricultural BMPs will be implemented through the U.S. Department of Agriculture's (USDA's) Farm Bill Programs, and the Mississippi River Basin Initiative (MRBI), and Louisiana Department of Agriculture and Forestry (LDAF) Section 319 BMP implementation programs. Urban storm water BMPs will be implemented through Municipal Separate Storm Sewer System (MS4) permits and the Nonpoint Source (NPS) Management Program, as administered by the Louisiana Department of Environmental Quality. Individual home sewerage BMPs will be implemented through the NPS Program as they partner with the Louisiana Department of Health and Hospitals (LDHH) and local parish sanitarian offices to increase inspections of existing systems. Each of these programs has components related to reducing nutrients in order to delist impaired waters and protect healthy waters.

The complexity of Louisiana's coastal zone is such that certain restoration project types are more appropriate based on the individual hydrologic basin and land use characteristics. Three of the more frequently-employed CPRA strategies include: 1) direct wetland creation and nourishment with sediment; 2) hydrologic restoration and freshwater inflow management; and 3) river diversions for salinity control and wetland restoration. How these strategies complement the "upstream" nutrient reduction strategies (e.g., agricultural and urban runoff BMPs) is not well understood.

To guide the process of developing a Statewide Nutrient Reduction Strategy, Louisiana has established a Statewide Nutrient Reduction Team that has the responsibility of integrating the knowledge from existing nutrient reduction programs. The team will:

- Lead the development of a Statewide Nutrient Reduction Strategy for Louisiana that embodies the GOMA and Hypoxia Task Force strategic elements for attaining nutrient reduction goals
- Evaluate how coastal restoration project types and designs within each identified priority watershed can be managed for nutrient reduction goals and coordinated with adjacent reduction strategies
- Build upon existing and proposed programs to create incentives for private sector participation in nutrient reduction programs.

These tasks will be achieved through a series of planning workshops supported by the Statewide Nutrient Reduction Team. The existing team, which consists of state agency partners, will be expanded to include other stakeholders, and will bring in expertise from other successful nutrient reduction programs such as the Mississippi Department of Environmental Quality. Participating agencies from Louisiana State Government include: the LDEQ, the Department of Natural Resources (LDNR), Louisiana Department of Agriculture and Forestry (LDAF) and CRPA. Federal and cross-governmental partners including USDA Natural Resources Conservation Service (NRCS), USEPA and the GOMA Nutrients Priority Issue Team, and Coastal Wetlands Planning Protection and Restoration Act (CWPPRA) partners will be invited. In addition, other stakeholders such as private sector industries, municipalities and non-governmental organizations (NGOs) will be included.

Products

- Define the critical elements of a comprehensive Statewide Nutrient Reduction Strategy for Louisiana that will be accomplished, considering both the existing resources of state and federal partners and the

magnitude/complexity of Louisiana coastal processes, based on the discussions from the focused workshops.

- Establish an expanded Statewide Nutrient Reduction Team from the focused workshops to take responsibility for leading the development of a draft reduction strategy.
- Develop and finalize a Statewide Nutrient Reduction Strategy document that will include coastal waters.

Benefits

The Statewide Nutrient Reduction Strategy will provide benefits by integrating coastal restoration projects and planning within an established framework for a comprehensive Statewide Nutrient Reduction Strategy for Louisiana. The resulting strategy will embody the GOMA and the Hypoxia Task Force's strategic elements for achieving nutrient reduction goals and will provide an approach that is consistent with programs from other coastal and Mississippi River states.

Summary

To guide the nutrient reduction strategy development process, the State of Louisiana has formulated a working, but incomplete, Draft Nutrient Reduction Strategy presently concentrating on inland watersheds, but has recognized the need to develop a more comprehensive nutrient reduction plan that integrates coastal processes and management strategies. This proposal outlines a plan to develop a Statewide Nutrient Reduction Strategy for Louisiana that adopts the strategic elements identified in the action plans of the Gulf of Mexico Alliance and the Gulf of Mexico Hypoxia Task Force. The focused workshops that are conducted under this proposal will increase our understanding of the issues and demonstrate that the coordination and integration of State water quality improvement efforts is a high priority for the State of Louisiana.

References

CPRA. 2007. Louisiana's Comprehensive Master Plan for a Sustainable Coast. Online at: http://coastal.la.gov.

GOMA. 2010. Coastal Nutrient Reduction Strategy Template. Online at: http://www.deq.state.ms.us.

GOMA. 2009. Governor's Action Plan II for Healthy and Resilient Coasts, 2009-2014. Online at: http://www.gulfofmexicoalliance.org/actionplan/actionplan_II.html.

Mississippi River/Gulf of Mexico Watershed Nutrient Task Force. 2008. Gulf Hypoxia Action Plan 2008 for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico and Improving Water Quality in the Mississippi River Basin. Washington, DC. Online at: http://water.epa.gov/type/watersheds/named/msbasin/index.cfm.

Mississippi River/Gulf of Mexico Watershed Nutrient Task Force. 2010. State Nutrient Reduction Strategy Framework.

Recommended Elements of a State Framework for Managing Nitrogen and Phosphorus Pollution. Online at http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/memo_nitrogen_framework.pdf

Project Milestones

Activity	2012				2013				2014			
	1	2	3	4	1	2	3	4	1	2	3	4
Focused workshops for a Nutrient Reduction Strategy for Louisiana			●	●	●	●						
Establish expanded Statewide Nutrient Reduction Team			●									
Development of Nutrient Reduction Strategy			●	●	●	●	●	●	●			
Quarterly reporting			●	●	●	●	●	●	●	●	●	
Annual report				●				●				
Preparation and submittal of final report										●	●	●

Roles of Applicant and Partners

CPRA will serve as the overall coordinator of the activities proposed herein. It is anticipated that CPRA and LDEQ will be co-leaders in developing the Draft Statewide Nutrient Reduction Strategy for Louisiana, with significant involvement in all tasks from the Statewide Nutrient Reduction Strategy Team, including the other State and federal agencies listed previously. The Lower Mississippi River Basin Sub-Committee on Hypoxia will also be a partner on this project.

Applicant's Organization and Experience Related to the Proposed Project

The CPRA is established as the single State entity with authority to articulate a clear statement of priorities and to focus development and implementation efforts to achieve comprehensive coastal protection for Louisiana. The CPRA is working closely with other entities on coastal issues, including the state legislature; the Governor's Advisory Commission on Coastal Protection, Restoration and Conservation; the Louisiana Recovery Authority (LRA); and the LRA's Louisiana Speaks regional planning process.

The Coastal Protection and Restoration Authority's mandate is to develop, implement, and enforce a comprehensive coastal protection and restoration Master Plan. For the first time in Louisiana's history, this single State authority integrates coastal restoration and hurricane protection by marshaling the expertise and resources of the Department of Natural Resources, the Department of Transportation and Development, and other state agencies to speak with one clear voice for the future of Louisiana's coast. Working with federal, state and local political subdivisions, including levee districts, the CPRA works to establish a safe and sustainable coast that will protect our communities, the nation's critical energy infrastructure and our bountiful natural resources for generations to come.

The Governor's executive assistant for coastal activities chairs the CPRA. Agencies in the CPRA include the following: the secretaries of the Department of Natural Resources; the Department of Transportation and Development (DOTD); the Department of Environmental Quality; the Department of Wildlife and

Fisheries; the Department of Economic Development; the commissioners of the Department of Agriculture and Forestry; the Department of Insurance; and the Division of Administration; the director of the State Office of Homeland Security and Preparedness; and the chair of the Governor's Advisory Commission on Coastal Protection, Restoration, and Conservation. Additionally, the CPRA membership includes two executive board members of the Police Jury Association and three levee district presidents from coastal Louisiana.

CPRA is the principal cost-share partner in most coastal restoration projects in the state of Louisiana, including the CWPPRA and Louisiana Coastal Area (LCA) and Coastal Impact Assistance Programs (CIAP). These programs collectively involve six cooperating federal agencies. As part of its responsibility, CPRA is typically the lead on post-construction operations, maintenance, and monitoring of project status. The CWPPRA annual budget has typically ranged from $30 million to $80 million (http://lacoast.gov/new/About/Default.aspx), while the total budget for the LCA Ecosystem Restoration Study projects is greater than $2 billion. CPRA is also the lead State agency for the CIAP funds, administered now by the US Fish & Wildlife Service, and is managing approximately $240 million in CIAP funds (http://www.boemre.gov/offshore/CIAPallotments.htm). CPRA has also been leading the development of the Water Quality and Carbon Sequestration Credit Trading Programs in the state of Louisiana.

Staff Expertise, Knowledge, Resources, and Ability to Achieve the Goals of the Proposed Project

CPRA's lead for this project, Richard Raynie, has over 20 years experience working in Louisiana coastal wetlands and previously administered the monitoring program for the CWPPRA in Louisiana. He is also the alternate to Garret Graves, CPRA Chair, as the Louisiana Hypoxia Task Force member and currently serves as the Division Administrator of the Louisiana Applied Coastal Engineering and Science (LACES) Division within the implementation office of CPRA. In addition, technical assistance within CPRA will come from Dr. Charles Killebrew, who has over 30 years of water quality and restoration experience in Louisiana. He currently represents the CPRA Chair on the Louisiana Groundwater Resources Commission and represents Louisiana on both the Hypoxia Task Force Coordinating Committee and the Gulf of Mexico Alliance Nutrient Reduction Priority Issue Team. LDEQ's staff has more than 20 years of experience at NPS/Point Source (PS) issues and will be partnering with staffs at agencies and organizations that also have extensive experience on water quality issues in Louisiana. Their backgrounds are in scientific fields related to resource issues of water and land management and public policy.

Budget and Estimated Funding Amounts

(see section 3.0 for budget narrative)

- Statewide Nutrient Reduction Strategy = $100,000

Discussion of How the Project Promotes Environmental Justice

Many of Louisiana's coastal communities have underserved populations, some of which are represented by Oxfam and its partners Bayou Grace Community Services, Bayou Interfaith Shared Community Organization (BISCO), Coastal Women for Change, STEPS Coalition, Terrebonne Readiness and Assistance Coalition (TRAC), and Zion Travelers Cooperative Center—grassroots groups representing coastal communities in the Lower Mississippi River Basin. CPRA and LDEQ will inform these organizations of their meetings on improving water quality in coastal Louisiana. A recent document,

Recommendations to the Gulf Coast Ecosystem Restoration Task Force, included a set of priorities for these organizations that are consistent with those of CPRA and LDEQ in this proposal.

b. Environmental Results—Outcomes, Outputs, and Performance Measures

The long-term environmental results of this project will be improved water quality and reduced nutrient loads in coastal waters as a result of integrating existing NPS/PS programs with coastal restoration project planning and implementation. The short-term outputs will include: 1) new partnerships between the relevant federal and state agencies and stakeholders that will integrate existing nutrient reduction strategies; 2) a Statewide Nutrient Reduction Strategy that builds on and incorporates existing nutrient reduction programs residing in various state and local programs.

c. Programmatic Capability and Past Performance

Louisiana has been the non-federal partner on all CWPPRA projects since its inception in 1990, which includes the successful construction of 95 restoration projects. Including other restoration programs, over 184 restoration projects have been constructed.

EPA has been the federal partner on 21 CWPPRA projects. Most recently, CPRA has been working with EPA on the following projects:

Project	Priority List	Year	Project Name
BS-13	15	2007	Bayou Lamoque Freshwater Diversion
BS-15	17	2009	Bohemia Mississippi River Reintroduction
BS-18	18	2010	Bertrandville Siphon
MR-15	15	2007	Venice Ponds Marsh Creation and Crevasses
TE-53	16	2008	Enhancement of Barrier Island Vegetation Demonstration

d. Leveraged Funds

It is anticipated that leveraged funding will consist of CPRA and LDEQ personnel time for project activities and overall coordination and management of this project. In addition, leveraged resources from LDEQ projects are anticipated.

Statewide Nutrient Reduction Strategy

- $1.9 Million: CPRA Water Quality Offset and Carbon Offset Market Assessment Programs, *Funded and In Progress*
- $882,934 Section 319 Incremental Funding for Special Projects in MRBA watersheds (LDEQ)

3.0 BUDGET NARRATIVE

The total budget of $100,000 will be used for the development of a statewide nutrient reduction strategy. The work for this project will be managed by the Louisiana CPRA. Over a three year period, this will require approximately $30,000 for general project oversight, grant management, and active participation. The salary for CPRA comprises approximately 30% of the total federal funding requested. The remaining budget for the project will fund a contractor(s) who is responsible for facilitating meetings and workshops, documenting the process, activities and tools to develop a Statewide Nutrient Reduction Strategy.

Budget Category	Year 1	Year 2	Year 3	TOTAL
Personnel				
Coastal Resources Program Manager /DCL B	4,000	8,000	4,000	$ 16,000
Coastal Resources Scientist/ Env. Spcc.	1,625	4,000	1,625	$ 7,250
TOTAL PERSONNEL	5,625	12,000	5,625	$ 23,250
Fringe benefits @ 29%	1,631.25	3,480	1,631.25	$ 6,742.50
TOTAL PERSONNEL AND FRINGE	7,256.25	15,480	7,256.25	$ 29,992.50
Travel	0	0	0	$
TOTAL TRAVEL	0	0	0	$
TOTAL EQUIPMENT	0	0	0	$ -
TOTAL SUPPLIES	0	0	0	$ -
Contractual	6,000	50,000	6,986	$ 62,986
TOTAL CONTRACTUAL				$ 62,986
TOTAL OTHER	0	0	0	-
TOTAL DIRECT CHARGES	13,256.25	65,480	14,242.25	$ 92,978.50
Indirect charges				
Federal Negotiated Indirect Cost Rate = 30.2% (Indirect Rate * Personnel = Indirect Costs)	1,698.75	3,624	1,698.75	$ 7,021.50
TOTAL FUNDING	$14,955	$69,104	$15,941	$ 100,000
TOTAL PROJECT COST				$ 100,000